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REMARKS

Claims 1-3, 5-7 and 9-19 are pending in the application.

Claims 1-3, 5-7 and 9-19 are rejected.

In the office action dated April 6, 2004, the following rejections are made. Claims 1 and 9-10 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wang U.S. Patent No. 6,580,420 in view of Toda U.S. Patent No. 6,496,179. Claims 2-3, 5-7 and 12-13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wang in view of Hiegel U.S. Patent No. 6,040,539. Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over Wang in view of Toda and Marchant U.S. Patent No. 6,240,183. Claim 14 is rejected under 35 U.S.C. §103(a) as being unpatentable over Wang in view of Hiegel and Smith. Claims 15 and 19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wang in view of Lee U.S. Patent No. 6,392,632. Claims 16 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wang in view of Toda and Marchant. Claim 17 is rejected under 35 U.S.C. §103(a) as being unpatentable over Wang in view of Toda and Karidis. These '103 rejections above are respectfully traversed.

Claims 1 and 9-11

Claim 1 recites a computer mouse comprising a motion sensor, and a collapsible housing for the motion sensor. The mouse is sized to fit within a PCMCIA slot when the housing is fully collapsed.

Wang discloses a pointing device that can function as either a mouse or a trackball (col. 6, lines 53-55). The pointing device includes an inner housing 120 slidably mounted to an outer housing 102. The inner housing 120 can be slid to a first position within the outer housing 102 (see Figure 6), and it can be slid to a second position adjacent to the outer housing 102 (see Figure 1). When the pointing device housing is "collapsed," the inner housing 120 is slid into the outer

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housing 102, whereby the pointing device 100 is configured as a mouse (col. 8, lines 1-14). The outer housing 102 functions as the mouse housing (see col. 8, lines 4-5).

Wang does not teach or suggest that the outer housing 102 (that is, the mouse housing) can be collapsed.

The office action states that Wang teaches a computer mouse comprising a "housing" that can be collapsed at column 9, lines 29-34. The statement is not correct. Wang teaches a pointing device housing that can be collapsed into a computer mouse. Wang does not teach or suggest that the housing, once collapsed into a computer mouse, can be further collapsed.

The office action cites the following two passages at col. 7, lines 14-25 and col. 9, lines 25-34.

Suitable sensors detect rolling motions of ball 124. Many kinds of suitable sensors which could be used for detecting 15 the rotation of a ball in a mouse or trackball are known to those skilled in the art. The particular type of rotation sensor(s) used and the circuits, for delivering signals from the rotation sensor(s) to a host computer are matters of design choice. FIG. 4 shows one possible arrangement of sensors. The sensors of FIG. 4 include a pair of frictionally driven rollers. A roller 154 is placed to contact ball 124 on its horizontal centerline 144. Roller 154 is rotatable about an axis perpendicular to vertical axis 142. A spring 158 biases roller 154 against the surface of ball 124.

When input device 100 is configured for use as a trackball, the distance between ball 124 and function buttons 108 can be adjusted to fit an individual user's hand size by moving inner housing 120 relative to outer housing 102. Since input device 100 can be collapsed into a small size, it is convenient for a user 30 to carry it around. Since input device can be used both as a mouse and as a trackball it is well adapted for use in situations, such as mobile computing, where a large, flat surface "S" might not be available.

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It is not clear why the first passage was cited. As for the second passage, it simply suggests that the input device can be collapsed into a small size: the size of a mouse. As disclosed in col. 8, lines 11-14 of Wang, when the input device is configured as a mouse, the outer housing 102 functions as the mouse housing. **Wang does not teach or suggest that the outer housing 102 can be collapsed.**

Thus, Wang does not teach or suggest a mouse that is collapsible. Toda does not teach or suggest a collapsible mouse either. For this reason alone, the '103 rejection of claim 1 and its dependent claims 9-11 should be withdrawn.

The relevance of Toda is not clear. Toda discloses a position detector for a mouse that is light and thin (col. 2, lines 33-35). The position detector is a rotary encoder. Toda says nothing about the mouse being collapsible. See figure 11, for example, which shows the encoder 3 pivoting within the housing.

The office action acknowledges that Toda does not disclose a mouse that is sized to fit in a PCMCIA slot. However, the office action states that Toda's mouse, because of its "small thickness ... would obviously fit into a PCMCIA slot"

The office action cites col. 1, lines 17-23, col. 2, lines 1-6 and col. 2, lines 33-39. Applicant's attorney has reviewed these passages, but did not see where Toda teaches or suggests a mouse that can fit inside a PCMCIA slot. All these passages suggest is the desirability of a light, thin mouse. Toda's mouse is thin by virtue of a thin housing and a rotary encoder that can function within the thin housing.

The office action has presented no evidence that Toda's mouse would "obviously" fit into a PCMCIA slot. Toda does not disclose dimensions (e.g., width, length or thickness) of the mouse. It might be the examiner's personal opinion that Toda's mouse would "obviously" fit into a PCMCIA slot; however, the

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opinion is unsubstantiated. An examiner's unsubstantiated opinion with respect to knowledge in the prior art does not provide substantial evidence of obviousness, especially when the knowledge is challenged.

The office action provides no evidence that Toda's mouse would fit into a PCMCIA slot. Neither Wang nor Toda, alone or in combination, teach or suggest a mouse that can be fit into a PCMCIA slot. For these additional reasons, the '103 rejection of claims 1 and 9-11 should be withdrawn.

Claims 5, 2-3, and 12-13

Claim 5 recites a computer mouse comprising a motion sensor; and a collapsible housing for the motion sensor. The collapsible housing includes a rigid base and an upper portion attached to the base. The upper portion is made of an elastic material that allows the housing to be collapsed.

Wang 's pointing device can be collapsed by sliding the inner housing 120 into the outer housing 102. Wang does not teach or suggest that either housing 102 or 120 has an elastic upper portion.

Hiegel discloses a protective cover for a computer mouse made of an elastic, flexible material. The cover stretches over the top and sides of the mouse, held firmly in place by the elastic action (see Abstract). The cover 10 has smaller dimensions than the mouse 90 that is intended to be covered (col. 2, lines 65-67). This is to allow the cover 10 to be stretched tautly across the mouse 90.

The office action refers to element 10 in figures 1-2, and cites passages at col. 3, lines 6-10 and col., 2, lines 60-67. These figures and passages support the analysis above. The passage at col. 3 states "The elastic nature of the material used in the cover 10 insures a tight fit, and insures the shape-hugging feature of the invention. It is important to note that the edges 20 of the cover 10

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engage the sides of the mouse 90, and do not reach any part of the underside of the mouse 90, where they might hinder movement of the mouse 90." The passage at col. 2 states "The cover 10 may be made of various sizes and shapes to complement any of a variety of mouse shapes, sizes, and designs. In any case, the cover 10 is constructed of a thin, flexible, elastic material, such as, but not limited to, plastic or rubber. A preferred material is latex or silicone rubber. The cover 10 has smaller dimensions than the mouse 90 that is intended to be covered. This is to allow the cover 10 to be stretched tautly across the mouse 90."

The office action acknowledges that Wang does not have a housing 102 with an elastic upper portion. However, it states that it would be obvious "to combine Hiegel's computer mouse having plastic housing into Wang's system so as to have a protective and decorative cover for a computer mouse."

Therefore, following the teachings of Hiegel, the cover would be placed over the outer housing 102 of Wang's pointing device (as indicated above, the outer housing 102 functions as the mouse housing). However, Hiegel does not teach or suggest modifying Wang's outer housing 102 so that the outer housing 102 can be collapsed.

Thus, the combination of Wang and Hiegel does not produce a mouse having all of the limitations of claim 5. Therefore, claim 5 and its dependent claims 2-3, 6 and 12-13 should be allowed over the combination of Wang and Hiegel.

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Claims 6, 7 and 14

Claim 6 recites a computer mouse comprising a motion sensor; and a collapsible housing for the motion sensor. The collapsible housing includes a resilient plastic sheet having fold lines that allow the housing to collapse into a relatively flat structure.

Wang discloses a pointing device that can be collapsed by sliding an inner housing 120 into an outer housing 102. Hiegel discloses a protective cover that is designed to stretch over and fit the contour of a mouse.

Neither Wang nor Hiegel teach or suggest a mouse housing including a resilient plastic sheet having fold lines.

The office action states that figures 26-27 of Wang discloses fold lines. These figures have been reviewed, and neither sheet nor fold lines were seen. Figure 26 and 27 show a second pointing device. In figure 26, the second pointing device is configured as a track ball; and in figure 27, the second pointing device is configured for storage. The second pointing device 2300 has two portions: an outer housing 2306 and a ball carrying portion 2304. According to col. 11, line 65 to col. 12, line 42, the ball carrying portion 2304 has two portions: a portion 2304a that is pivotally attached to outer housing 2306, and a portion 2304b that is pivotally attached to portion 2304a.

If the examiner maintains that figures 26-27 show a resilient plastic sheet having fold lines, he is requested to cite the numerals referring to the sheet and fold lines. He is also requested to cite the passages in Wang that describe the resilient sheet and fold lines.

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Thus far, the office action has offered no evidence of a mouse housing including a resilient plastic sheet having fold lines that allow the housing to collapse into a relatively flat structure. Therefore, claim 6 and its dependent claims 7 and 14 should be allowed over the combination of Wang and Hiegel.

Claims 15 and 19

Claim 15 recites a computer mouse comprising a motion sensor including a sensor chip; and a collapsible housing for the motion sensor. The sensor chip is movable between a stowed position and a deployed position.

As indicated above, Wang does not disclose a mouse having a collapsible housing. Lee does not either. For this reason alone, the '103 rejections of claim 15 and its dependent claim 19 should be withdrawn.

The office action acknowledges that Wang does not disclose a sensor chip, a stowed position, or a deployed position.

The office action states that these features are "fairly suggested" in column 1, lines 1 and 34-41 of Lee. The first line of the specification (line 5, not line 1) states "The present invention relates generally to cursor control devices, and in particular, to an optical mouse having an integrated camera." Lines 34-41 state

Recently, Logitech Corp. introduced a cursor control device marketed under the trademark "MARBLE". This device uses a trackball that is printed with a random pattern of dots. When the ball is moved, a light beam illuminates a small section of dots, and the image of this section is passed through a lens and reflected off a mirror. The reflected image is read by a sensor chip that calculates the movement of the dots.

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The examiner is requested (1) to explain how these two passages suggest a sensor chip that can be moved between a stowed position and a deployed position.

The office action states that Lee "fairly teaches" deployed position and a stowed position [of a sensor chip], "which is considered, as calculating the movement." However, this statement does not have any basis in reality. The statement certainly is not supported by Lee. The movement that Lee refers to is the movement of a trackball. The optical device senses the movement of dots on the trackball. There is no teaching or suggestion that a sensor chip is moved between a stowed position and a deployed position.

The office action also gives a reason for combining the teachings of Wang and Lee, but the reason is incomprehensible. Clarification is respectfully requested.

Neither Wang nor Lee teaches, hints or even remotely suggests a mouse having all of the limitations of claim 15. Therefore, claim 15 and its dependent claim 19 should be allowed over the combination of Wang and Lee.

Claims 16 and 17-18

Claim 16 recites a combination comprising a mouse including a collapsible housing; and a PCMCIA card for communicating with the mouse. Neither Wang nor Toda teach or suggest a PCMCIA card for communicating with a mouse. Marchant does not either.

The office action states that Marchant discloses a PCMCIA card for communicating with a mouse at col. 5, 15-20 and 35-37. However, lines 15-20 merely states that Figure 3 shows multiple security units 52a-52f; and lines 35-37 simply state a security unit 52c is present upon a PCMCIA card, and the PCMCIA card is inserted into a slot.

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Figure 3 of Marchant shows a mouse 106 that is connected to a security unit 52a, not a PCMCIA card. The security unit 52a is connected to a mouse port. Figure 3 also shows mice 118 and 122 that are connected to security units 52d and 52e, not PCMCIA cards. The security units 52d and 52e are connected to keyboards 116 and 120.

Thus the combined teachings of Wang, Toda and Marchant do not produce the combination recited in claim 16. Moreover, none of the cited documents teach or suggest a mouse with a collapsible housing. Therefore, claim 16 and its dependent claims 17-18 should be allowed over Wang, Toda and Marchant.

Conclusion

The examiner is respectfully requested to withdraw the rejections and issue a notice of allowability. The examiner is invited to contact the undersigned to discuss any issues that might remain.